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NEO4J, INC. and NEO4J SWEDEN AB

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

NEO4J, INC., a Delaware corporation, and NEO4J SWEDEN AB, a Swedish corporation, Plaintiffs, v. PURETHINK LLC, a Delaware limited liability company, IGOV INC., a Virginia corporation, and JOHN MARK SUHY, an individual, Defendants.	CASE NO. 5:18-cv-07182-EJD **DECLARATION OF JOHN BROAD IN SUPPORT OF PLAINTIFFS' CONSOLIDATED MOTION FOR SUMMARY JUDGMENT** Date: March 25, 2021 Time: 9:00 a.m. Dept.: Courtroom 4, 5th Floor Judge: Hon. Edward J. Davila
AND RELATED COUNTERCLAIM.	
NEO4J, INC., a Delaware corporation, and NEO4J SWEDEN AB, a Swedish corporation, Plaintiffs, v. GRAPH FOUNDATION, INC., an Ohio corporation, GRAPHGRID, INC., an Ohio corporation, and ATOMRAIN INC., a Nevada corporation, Defendants.	CASE NO. 5:19-CV-06226-EJD **REDACTED VERSION OF DOCUMENT PROPOSED TO BE FILED UNDER SEAL**

I, John Broad, declare as follows:

1. I am the Vice President, Strategic Alliances and Channels at Neo4j, Inc. ("Neo4j USA"). I submit this declaration on behalf of Plaintiffs in support of their Consolidated Motion for Summary Judgment. The facts stated herein are based on my personal knowledge, except with respect to those matters stated to be on information and belief, and as to those matters, I believe them to be true. If called upon to testify as a witness in this matter, I could and would do so competently.

2. Neo4j USA is the company behind the leading graph platform for connected data, marketed and sold under the trademark "Neo4j" ("Neo4j® Mark"). The Neo4j® graph database platform ("Neo4j® Platform") helps organizations make sense of their data by revealing how people, processes and digital systems are interrelated. This connections-first approach powers intelligent applications tackling challenges such as artificial intelligence, fraud detection, real-time recommendations and master data. The company boasts the world's largest dedicated investment in graph technology, and its namesake graph database platform has amassed more than 20 million downloads with huge developer community deploying graph applications around the globe.

3. Neo4j Sweden AB ("Neo4j Sweden") is the owner of all copyrights related to the Neo4j® Platform, including the underlying source code, and has licensed said copyrights to Neo4j USA. After Neo4j USA's incorporation, Neo4j Sweden became a wholly-owned subsidiary of Neo4j USA. Neo4j USA also obtained the rights to the Neo4j® Mark in the United States from Neo4j Sweden.

4. Enterprise users of the Neo4j® Platform benefit from a turn-key solution with the assistance of authorized Neo4j® solution partners, avoiding drawn-out development processes. The Neo4j® Platform has more than 400 commercial customers, including global enterprises like Citi, Walmart, Comcast, Cisco, Microsoft and UBS use the Neo4j® Platform to create a competitive advantage from connections in their data. Other significant customers include Adobe, IBM, Lyft, Boston Scientific, Airbnb, HP, Airbus, Pitney Bowes, Volvo, Bayer, Marriott International, Orange, AstraZeneca, Novartis, LinkedIn and Telenor.

5. The Neo4j® Platform is available both on-premises and via Google, Amazon and Microsoft Azure cloud platforms with support from authorized Neo4j® solution partners. It is utilized by more than 75% of Fortune 100 companies, including the top financial services firms, software companies, logistics firms, retailers, airlines, automakers, telco companies, hospitality companies, and by all of North America's top 20 banking institutions. The company's namesake platform is the only graph database recognized by key analysts, including Forrester, Gartner, and others, to have enough production applications to warrant inclusion in reports.

6. The Neo4j® Platform has also won numerous awards and recognition in the industry, including being recognized as the winner for "Overall Open Source Data Solution Provider of the Year" by 2020 Data Breakthrough Awards. Attached hereto as **Exhibit 1** is a true and correct copy of a printout of a webpage, https://neo4j.com/awards/, from Neo4j USA's website that lists and provides links to the various awards that the Neoj4® Platform has received since September 2015, including the 2020 Data Breakthrough Award.

7. The Neo4j® Platform has consistently been the top ranked graph-based database management system, closely integrated into Google Cloud Platform which choses only the top-ranked databases to partner with. Attached hereto as **Exhibit 2** is a true and correct copy of the current ranks for graph-based database management systems created and maintained by solid IT GmbH, an Austrian IT consulting company with a special focus on software development, consulting and training for database-centric applications located here: https://db-engines.com/en/ranking/graph+dbms, printed out on November 25, 2020.

8. Attached hereto as **Exhibit 3** is a true and correct copy of The Forrester Wave™: Graph Data Platforms, Q4 2020 - The 12 Providers That Matter Most and How They Stack Up, published on November 16, 2020, which found to be a leader in graph database platforms and that "Neo4j remains a popular graph data platform to support most use cases." This document is subject to third party copyrights and contractual use restrictions, which requires that Neo4j USA not make the document publicly available.

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9. Attached hereto as **Exhibit 4** is a true and correct copy of an October 20, 2020 press release issued by Neo4j USA and published on its website, titled "Neo4j Is the Choice of Leading Companies for Graph Databases in the Cloud."

10. Attached hereto as **Exhibit 5** is a true and correct copy of an October 14, 2020 press release issued by Neo4j USA and published on its website, titled "Google, NASA, PayPal and the World Bank to Headline Neo4j's NODES 2020 Developer Conference."

11. Attached hereto as **Exhibit 6** is a true and correct copy of a September 23, 2020 press release issued by Neo4j USA and published on its website, titled "NASA, ICIJ, ATPCO, Lyft and More Choose Neo4j for their Knowledge Graphs."

12. Attached hereto as **Exhibit 7** is a true and correct copy of a January 29, 2020 press release issued by Neo4j USA and published on its website, titled "Neo4j Marks Another Year of Product, Customer and Community Momentum."

13. Attached hereto as **Exhibit 8** is a true and correct copy of an October 22, 2019 press release issued by Neo4j USA and published on its website, titled "Neo4j is the Graph Database of Choice for World's Top Financial Services Organizations".

14. Attached hereto as **Exhibit 9** is a true and correct copy of question and answer session with Plaintiffs' founder and Neo4j USA's CEO, Emil Eifrem further discussing Plaintiffs' founding and place in the graph database market, which was taken by and published by William Blair & Company, L.L.C. on November 21, 2019.

15. Attached hereto as **Exhibit 10** is a true and correct copy of a February 13, 2018 in impact report about Plaintiffs and the Neo4j® Platform, titled "More than a graph database, Neo4j spreads graph platform message," authored by James Curtis and published by 451 Research.

16. Attached hereto as **Exhibit 11** is a true and correct copy of a November 20, 2016 in impact report about Plaintiffs and the Neo4j® Platform, titled "Neo Technology takes in $36m, revamps clustering architecture on Neo4j," authored by James Curtis and published by 451 Research.

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17. Neo4j USA has expended considerable effort and capital in the Neo4j® brand from 2014 to the present. During that time, the company has sponsored its own annual global conference for the graph technology community focusing on its Neo4j® Platform, in addition to attending and sponsoring trade shows, to maintain its position and recognition as the #1 platform for connected data. Including other promotional materials, training materials and courses, partner marketing expenses, the company has spent over $12 million in the prior three years to establish its position as a marketplace leader with a trustworthy reputation.

18. GraphConnect is the world's largest conference for the global graph community spread across 4 days, including impact stories on how the Neo4j® Platform made a difference in terms of innovation, technology, saving costs and driving revenue, hands-on training, the Graph Hack hackathon and the latest evolution of graph technology in the general sessions and several developer and partner summits. The partner summits' agenda is comprised of proprietary topics such as discussion of product roadmap, go to market plans, sales strategies, reference customers, and support logistics. The attendees include graph database developers, architects, CTOs, CIOs, line of business owners, technology analysts and consultants representing myriad industries, including financial services, manufacturing, retail, healthcare, telecommunications, consumer products, energy, government, technology, professional services, aerospace, hospitality, transportation, life sciences and media and entertainment.

19. GraphTour is the world's largest conference series for the global graph community with a similar format to GraphConnect condensed into one day in a given city, attracting thousands of attendees with a similar profile that of GraphConnect and hosted by Neo4j in dozens of cities worldwide.

20. I am familiar with Graph Foundation's ONgDB software. As part of my role as Vice President, Strategic Alliances and Channels at Neo4j USA, I am involved with Neo4j USA's efforts to identify and respond to requests for quotes and open solicitations for graph database platforms, including commercial companies and federal government agencies.

21. In particular, Neo4j USA lost at least one opportunity to implement commercially licensed Neo4j® Enterprise Edition("Neo4j® EE") and provide support services at the Internal

Revenue Service (IRS) in its RAAS Analytics and Strategy Support group when the IRS chose to use ONgDB rather than obtain commercially licensed Neo4j® EE and related professional services.

22. In April 2019, Neo4j USA submitted a proposal to the Maryland Procurement Office (MPO), for whom Next Century was developing a solution leveraging the Neo4j® Platform. This proposal was for a 3-year Neo4j® EE Enterprise Bundle with support services and related professional services. A true and correct copy of this proposal is attached hereto as **Exhibit 12**. This proposal contains highly confidential pricing and licensing information that would give a competitor an unfair competitive advantage over Neo4j USA if that competitor were able to have access to that information.

23. On or about April 29, 2019, I learned that Next Century was instructed by the MPO to continue using ONgDB. Attached hereto as **Exhibit 13** is a true and correct copy of an April 2019 email exchange between Jason Zagalsky, a federal technical account manager at Neo4j USA and Shahak Nagiel of Next Century, which was forwarded to me by Mr. Zagalsky. I believe that Next Century considers the communication to be confidential.

24. Ultimately, neither the MPO nor Next Century accepted Neo4j USA's proposal. As a result, Neo4j USA has lost over $2.2 million in revenue from that project.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct, and that this declaration was executed on this 11th day of December 2020, at San Mateo, California

John Broad

EXHIBIT 1

Neo4j Awards and Honors

Award-Winning Neo4j Graph Database

Best Graph Database: 2020 DBTA Readers' Choice Award

August 6, 2020

DBTA Readers' Choice Awards Winners (2020) Neo4j was selected as one of the DBTA Readers' Choice Awards Winners for 2020. Learn more about Neo4j a winners in other categories. Read more: https://www.dbta.com/Editorial/Trends-and-Applications/DBTA-Readers-Choice-Awards-Winners-2020-141750.aspx?PageNum=7

KMWorld AI 50: The Companies Empowering Intelligent Knowledge Management

July 9, 2020

KMWorld AI 50: The Companies Empowering Intelligent Knowledge Management As the drive for digital transformation becomes an imperative for companies seeking to compete and succeed in all industry sectors, intelligent tools and services are being recognized for their key roles… Read more →

13th Annual Ventana Digital Innovation Award Finalist: Data

July 8, 2020

Neo4j is a finalist for Ventana Research's 13th Annual Digital Innovation Awards in the category of Data. This is an important level of recognition for Neo4j's technology innovation contribution to the market. More information at: https://www.ventanaresearch.com/resources/awards/innovation

The Coolest Database System Companies Of The 2020 Big Data 100

April 28, 2020

The Coolest Database System Companies Of The 2020 Big Data 100 Neo4j: Top Executive: CEO Emil Eifrem Neo4j markets a graph database system – graph databases are designed to store not just data, but also the relationships between data and… Read more →

Neo4j Wins 2020 Data Breakthrough Award for Overall Open Source Data Solution Provider of the Year

April 16, 2020

We're excited to announce that Neo4j has been recognized by the 2020 Data Breakthrough Awards as the winner for "Overall Open Source Data

Neo4j Included in KMWorld 100 Companies That Matter in Knowledge Management 2020

March 10, 2020

The annual list of 100 Companies That Matter in Knowledge Management reflects the urgency felt among many organizations to provide a timely flow of targeted information. Among the more prominent initiatives is the use of AI and cognitive computing, as… Read more →

Solution Provider of the Year"! This year's Data Breakthrough Awards received more than 1,500 entries, and we're… Read more →

Neo4j in The 2019 SD Times 100: DATABASE AND DATABASE MANAGEMENT

May 31, 2019

Neo4j has been selected as a leader in the 2019 SDTimes 100 Database and Database Management category. Read more: https://sdtimes.com/sdtimes-100/2019/best-in-show/database-and-database-management-2019/

Bloor Mutable Award 2019

May 3, 2019

Bloor Research recognises Neo4j with in its recent Graph Database Market report. The Bloor Mutable Awards are presented to software vendors who enable organizations to be more adaptable and increase their ability to evolve more rapidly and Neo4j has achieved… Read more →

Neo4j: 2019 Big Data 100

May 1, 2019

The Coolest Big Data Management And Integration Software Of The 2019 Big Data 100 Neo4j provides the Neo4j Graph Platform including the Neo4j graph database, an ACID-compliant system with native graph storage and processing. (Graph databases treat the relationships between… Read more →

Neo4j and DZD Data Impact Award Finalists at Strata Data Conference

March 14, 2019

Neo4j, the leader in graph databases is recognized as a finalist for the Data Impact Award The German Center for Diabetes Research (DZD) worked with Neo4j combine research data sources from genetics, epigenetics and metabolic pathways with data from clinical… Read more →

Neo4j Wins Bossie Awards 2018 for best open source software for data storage and analytics

September 27, 2018

Neo4j honored to earn a spot on this year's InfoWorld Bossie Awards for the best open source software for data storage and analytics Neo4j, the original graph database, is vastly more efficient than SQL or NoSQL databases for tasks that… Read more →

Neo4j featured in 2018 Datanami Editor's Choice for Best Operational Database

September 14, 2018

Neo4j honored to earn a spot on this year's 2018 Datanami Editor's Choice for Best Operational Database Neo4j is the best editors choice for Operational Database and featured in 2018 Datanami Editor's Choice Awards Graph databases are the most elegant… Read more →

Neo4j featured in 2018 Datanami Reader's Choice for Top Big Data Achievement

September 13, 2018

Neo4j honored to earn a spot on this year's 2018 Datanami Reader's Choice for Top Big Data Achievement Neo4j is the best reader's choice for Top Big Data Achievement and featured in 2018 Datanami Reader's Choice Awards The International Consortium… Read more →

Neo4j Named to JMP Securities 2018 List of "Hot 100 Privately Held Software Companies"

September 10, 2018

Neo4j honored to earn a spot on this year's JMP Securities 2018 List of Hot 100 companies JMP Securities, a San Francisco-based, full-service investment bank, publishes its annual "Hot 100" list to highlight the best privately held software companies as… Read more →

Neo4j Awarded 2018 InfoWorld Technology of the Year

January 31, 2018

Neo4j wins InfoWorld 2018 Awards for Technology of the Year for delivering graph database technology that 'which offers highly available clusters, ACID transactions, and causal consistency'.

Neo4j Recognized in CRN.com 2017 Big Data 100

May 4, 2017

Neo4j Recognized as CRN's Coolest Data Management And Integration Vendor in their 2017 Big Data 100 list. Neo4j gained recognition in 2016 when a consortium of investigative journalists used the database to analyze the "Panama Papers," what some have called… Read more →

Neo4j Selected as Most Innovative Solution by IT Innovation Forum

October 17, 2016

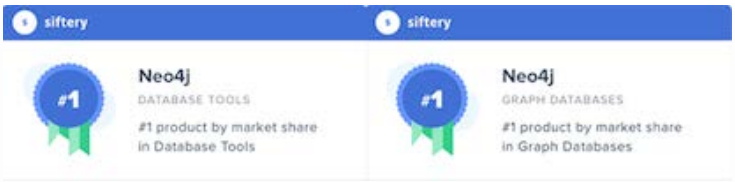
IT Innovation Forum selected Neo4j as one of 30 innovative solutions IT and Digital, "based on it's contribution to economy, their business and replicability." Read the full article

Neo4j Wins Bossie Awards 2016 for Best Open Source Datacenter and Cloud Software

September 21, 2016

The release of Neo4j 3.0 earlier this year was packed with speed, flexibility, and efficiency. The first detail to note is that enterprise customers have the opportunity to choose to use a new storage driver that removes the address space…

Read more →



Neo4j earned 2 Best-in-Class Awards on Siftery

July 26, 2016

Neo4j has earned two best-in-class awards on Siftery, a database of software products and customers. The graph database is ranked the #1 product in market share for both Database Tools and Graph Databases.

Neo Technology Recognized in DBTA 100 “Companies That Matter Most in Data”

June 6, 2016

Within a constantly changing field, Database Trends & Applications recognized Neo Technology as one of 100 companies of 2016 that matter most in data. See the other companies that made the list here.

Neo Technology honored in SD Times 100 for Database & Database Management

May 31, 2016

Another year for Neo Technology listed in 2016 SD Times 100 for Neo4j Graph Database as ‘Best in Show’ in Database & Database Management. To see the complete list of honors, visit: SD Times

CRN Includes Neo Technology in 30 Coolest Data Management Vendors

May 2, 2016

CRN came out with the Big Data 100 list for 2016 and included Neo Technology as one of 30 coolest data management vendors. The complete list can be found here.

Neo4j “Champion” in Bloor Report

November 13, 2015

A graph database is one that stores data in terms of entities and the relationships between entities. A variant on this theme are RDF (resource

Neo4j Acclaimed “Most Popular and Widely Deployed Database” Constellation Research 2015

As might be expected with the rising popularity of

description framework) databases which store data in the format subject-predicate-object, which is known as a… Read more →

the topic there is a huge amount of useful information on Graph Databases to be found on Wikipedia. This includes some highly informative tables of most, if not all, the popular… Read more →

Neo Technology Winner of NOSQL/ Graph Database Technologies

September 16, 2015

Integrate 2015 is the world's largest conference,expo,and social network that is focused on integrating technologies together. Listed are the Top Innovators of 2015, ranging in categories such as, API and data technologies. Neo4j Award Winner, NOSQL/ Graph Database Technologies Neo…

Read more →

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Email a graph expert

EXHIBIT 2

Select a ranking

- Complete ranking
- Relational DBMS
- Key-value stores
- Document stores
- Time Series DBMS
- Graph DBMS
- Object oriented DBMS
- Search engines
- RDF stores
- Wide column stores
- Multivalue DBMS
- Native XML DBMS
- Event Stores
- Content stores
- Navigational DBMS

Special reports

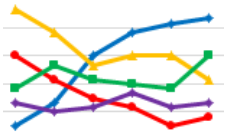
- Ranking by database model
- Open source vs. commercial

Ranking > Graph DBMS

RSS RSS Feed

DB-Engines Ranking of Graph DBMS

The DB-Engines Ranking ranks database management systems according to their popularity. The ranking is updated monthly.



trend chart

This is a partial list of the complete ranking showing only graph DBMS.

Read more about the method of calculating the scores.

include secondary database models — 32 systems in ranking, November 2020

Rank Nov 2020	Rank Oct 2020	Rank Nov 2019	DBMS	Database Model	Score Nov 2020	Score Oct 2020	Score Nov 2019
1.	1.	1.	Neo4j	Graph	53.53	+2.20	+3.00
2.	2.	2.	Microsoft Azure Cosmos DB	Multi-model	32.50	+0.49	+0.52
3.	3.	↑ 4.	ArangoDB	Multi-model	5.37	-0.18	+0.36
4.	4.	↓ 3.	OrientDB	Multi-model	5.30	-0.17	-0.09
5.	5.	5.	Virtuoso	Multi-model	2.54	-0.03	-0.10
6.	6.	↑ 7.	Amazon Neptune	Multi-model	2.43	-0.05	+0.83
7.	7.	↓ 6.	JanusGraph	Graph	2.37	-0.03	+0.58
8.	8.	8.	GraphDB	Multi-model	2.11	+0.01	+0.97
9.	9.	↑ 14.	FaunaDB	Multi-model	1.78	0.00	+1.17
10.	10.	↓ 9.	Dgraph	Graph	1.62	-0.06	+0.58
11.	11.	↑ 13.	Stardog	Multi-model	1.46	-0.01	+0.70
12.	12.	↓ 11.	Giraph	Graph	1.14	0.00	+0.13
13.	13.	↓ 10.	TigerGraph	Graph	1.14	+0.05	+0.12
14.	14.	↓ 12.	AllegroGraph	Multi-model	1.04	+0.01	+0.17
15.	15.	15.	Blazegraph	Multi-model	0.80	-0.02	+0.22
16.	↑ 17.	16.	Graph Engine	Multi-model	0.74	+0.05	+0.18
17.	↓ 16.	↑ 21.	Grakn	Multi-model	0.74	-0.05	+0.53
18.	18.		Nebula Graph	Graph	0.73	+0.18	
19.	19.	↓ 18.	InfiniteGraph	Graph	0.50	+0.02	+0.12

20.	20.	33.	Fluree	Graph	0.38	+0.03	+0.38
21.	21.	19.	FlockDB	Graph	0.34	+0.01	+0.08
22.	22.	22.	HyperGraphDB	Graph	0.27	+0.01	+0.07
23.	23.	25.	TinkerGraph	Graph	0.19	-0.01	+0.07
24.	24.	28.	GraphBase	Graph	0.18	+0.00	+0.10
25.	25.	27.	AnzoGraph DB	Multi-model	0.18	+0.02	+0.07
26.	26.	24.	Sparksee	Graph	0.16	+0.03	+0.01
27.	27.	32.	TerminusDB	Graph, Multi-model	0.12	0.00	+0.12
28.	28.	30.	Memgraph	Graph	0.10	-0.02	+0.04
29.	30.	29.	HugeGraph	Graph	0.10	-0.01	+0.03
30.	29.	31.	VelocityDB	Multi-model	0.10	-0.02	+0.03
31.	31.	23.	AgensGraph	Multi-model	0.08	+0.00	-0.08
32.	32.	26.	HGraphDB	Graph	0.01	-0.03	-0.11

Upcoming Events

» more DBMS events

PostgreSQL event

PostgreSQL Online Trainings
Online Training Courses
4 May 2020 - 11 December 2020

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EXHIBIT 3

REDACTED VERSION OF DOCUMENT SOUGHT TO BE SEALED

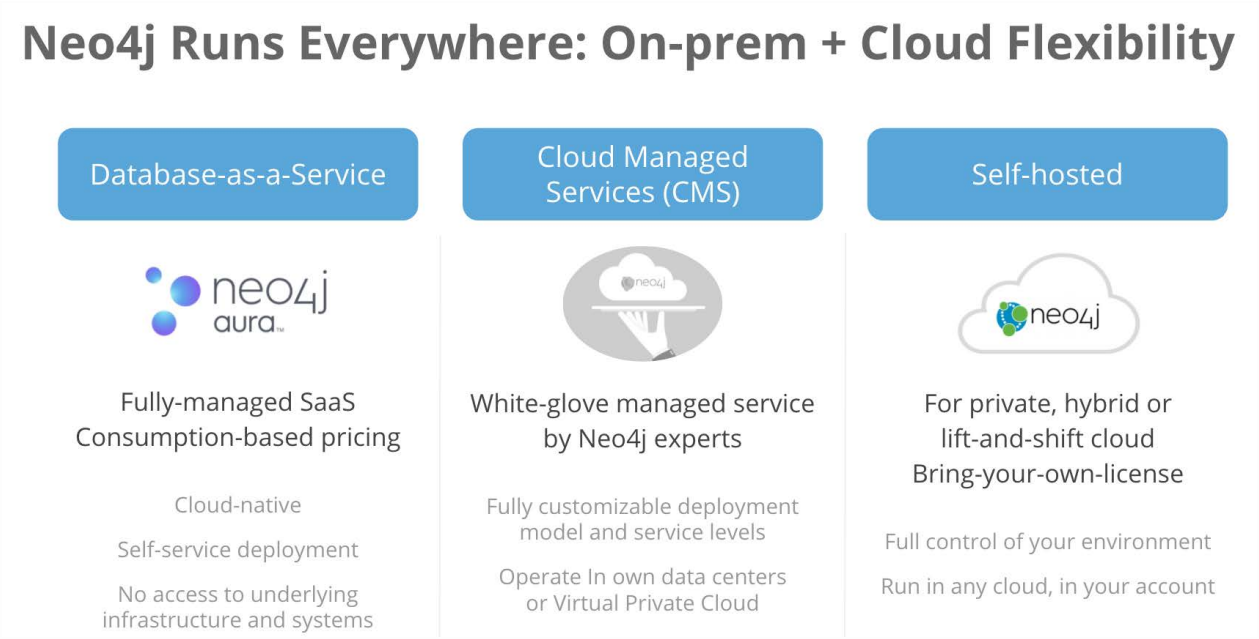
EXHIBIT 4

Neo4j Is the Choice of Leading Companies for Graph Databases in the Cloud

Adobe, the ACH System of Colombia, Isagenix and Others Choose Neo4j in the Cloud for Frictionless Control over Their Complex Data Problems

SAN MATEO, Calif. – October 20th, 2020 – Neo4j®, the leader in graph technology, announced that the majority of its customers are now deploying their graph applications in the cloud, facilitated by flexible self-hosted and fully – managed options.

Over the last twelve months, over 90% of Neo4j customers have opted to run their graph-powered applications in the cloud, many of whom are first-time graph technology users. The adoption of Neo4j across industries – coupled with a shift to the cloud – unlocks new possibilities to address complex data problems.



Caption: Neo4j's graph technology runs everywhere for hosted and fully-managed cloud flexibility.

Neo4j's cloud deployment options offer developers and IT teams the level of control and management they need to support their application architecture. Solutions as diverse as knowledge graphs, recommendation engines, customer 360 systems, fraud detection and many others leverage the Neo4j graph database without friction, freeing up users to focus on innovation and delivering core business value.

Neo4j has made the world's most popular graph database available for any cloud environment, with options to support organizations wherever they are in their cloud journey. Neo4j provides self-hosted as well as fully managed deployment options to support hybrid, "lift-and-shift" migration or cloud-native environment needs:

Neo4j Aura, Graph Database-as-a-Service: Fully managed and completely automated, Aura enables developers to rapidly deploy, build and expand graph-powered applications in the cloud, without the burden of managing infrastructure.

More than 450 organizations have used Neo4j Aura since its introduction last year, and more than half of those organizations are first-time graph database users. Neo4j Aura has powered more than 1,700 applications and runs more than 2.5 billion graph queries per month with an average execution time of 61 milliseconds.

- Minka uses Neo4j Aura to store transaction records and references for Transfiya, a modern blockchain-based transaction processing system enabling real-time payments for Colombia's ACH payments.

- Menome leverages Neo4j Aura to deliver a scalable cloud-based data insights platform for environmental engineering, unifying diverse datasets helping organizations make important, data-driven decisions.

- Tourism Media uses Neo4j Aura for a fully automated and multilingual content curation service via an intelligent cognitive assistant. Their application serves dynamic web content for online travel businesses by using diverse and complex datasets across global geographies and inventory databases. The flexibility and contextual power of the graph model allow Tourism Media to scale easily with their growing business needs while reducing their build times from days to hours.

Self-hosted in the Public Cloud: Hundreds of clients utilize Neo4j in public cloud environments, including in Microsoft Azure, Amazon Web Services and Google Cloud Platform. This option provides a high level of flexibility for organizations with complex customized deployment requirements.

For example, Adobe Behance deployed Neo4j on AWS to replace legacy technology, allowing them to significantly shrink their hosting costs. Human maintenance hours are down, updates that used to take 12-30 minutes now run in 100 milliseconds. Additionally, Neo4j has cut users' average time from sign-up to initial activity from 1.4 seconds to 400 milliseconds.

"Switching to Neo4j was a huge win for us," said David Fox, software engineer at Adobe. "We've seen significant performance improvements, and a great reduction in complexity, storage and infrastructure costs. Staff now focus on improving the infrastructure, versus spending time frustratingly micro-managing it."

Neo4j Cloud Managed Services: This white-glove service is customized for enterprises that wish to run Neo4j in their cloud infrastructure but need experts to manage it for them, freeing them to stay focused on their core business operations.

Isagenix leverages Neo4j Cloud Managed Services on Amazon Web Services to provide actionable information and real-time analytics to independent distributors, allowing them to focus on business development activities and improving the overall customer experience.

Ramanan Balakrishnan, Senior Director of Product Marketing at Neo4j, sees significant

growth in graph adoption on Amazon Web Services, Microsoft Azure and Google Cloud Platform necessitated by data gravity and the desire to reduce operational overhead.

“Across use cases and industries, Neo4j is uniquely engineered to provide friction-free graph application deployment and seamless operation in the cloud,” said Balakrishnan. “Cloud migration can be a long journey and presents unique challenges for every enterprise. This is why we meet our customers wherever they are, and provide a frictionless path to execute their Neo4j deployment journey.”

In May, Gartner published Top 10 Trends in Data and Analytics, 2020 *. The report states, “By 2022, public cloud services will be essential for 90% of data and analytics innovation.” It goes on to say, “Business agility enabled by the cloud is more critical now than ever before as organizations need to accelerate data-driven change and innovation in response to economic downturn and crisis.”

*Gartner, “Top 10 Trends in Data and Analytics, 2020 ”, Rita Sallam, et al, 11 May 2020.

Find Out More

Additional information about Neo4j deployment options can be found by visiting the Neo4j Cloud Deployment resource center:

- Self-hosted in the Public Cloud
- Neo4j Cloud Managed Services
- Neo4j Aura, Graph Database-as-a-Service

Neo4j is available on the AWS, GCP and Azure marketplaces.

Resources

- Neo4j Aura
- Neo4j for Cloud
- Neo4j Cloud Developer Guide
- Neo4j Cloud Managed Services

- Neo4j on Twitter
- Neo4j on LinkedIn
- Neo4j on YouTube
- Neo4j is hiring

About Neo4j

Neo4j is the leader in graph database technology. As the world's most widely deployed graph database, we help global brands – including Comcast, NASA, UBS and Volvo – to reveal and predict how people, processes and systems are interrelated. Using this relationships-first approach, applications built with Neo4j tackle connected data challenges such as analytics and artificial intelligence, fraud detection, real-time recommendations and knowledge graphs. Find out more at neo4j.com.

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France: +33 (0) 1 73 23 56 07

EXHIBIT 5

Google, NASA, PayPal and the World Bank to Headline Neo4j's NODES 2020 Developer Conference

Largest Global Gathering of Graph-Focused Developers Set to Take Place October 20th

SAN MATEO, Calif. – October 14th, 2020 – Neo4j®, the leader in graph technology, announced today the key highlights for the second-annual Neo4j Online Developer Expo and Summit (NODES).

The one-day virtual conference is expected to attract more than 10,000 developers and data scientists on October 20th. The program includes diverse, interactive sessions delivered by graph experts on topics ranging from anti-money laundering and cybersecurity to contact tracing and automotive design. This year, NODES welcomes over 70 speakers from across the globe.

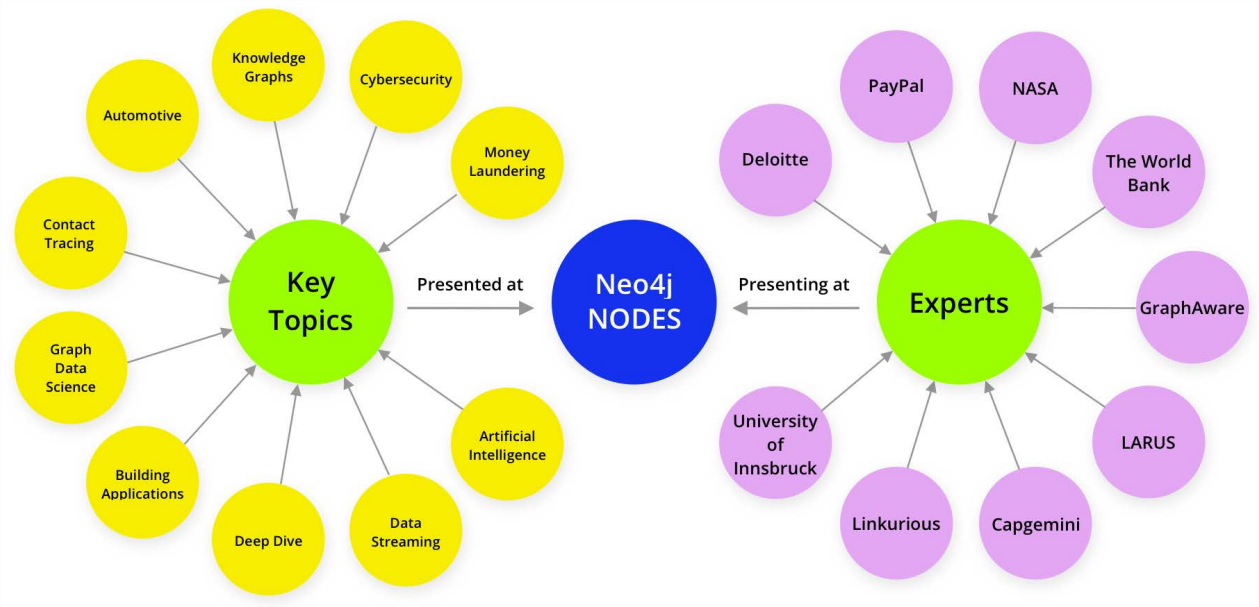

Image Captions:

English: The Neo4j NODES 2020 Conference has attracted over 10,000 developers and data scientists for a one-day virtual conference.

Cypher: MATCH (:Conference:Virtual {name:"NODES 2020"})-[:HAS_TRACK]->(t:Track)<-[:IN_TRACK]-(s:Session) RETURN c.date, collect(t.name) as tracks, count(*) as sessions, size(()-[:REGISTERED]->(c)) as attendees // 2020-10-20, ["Deep Dive","Building Applications","Graph Data Science","Visualization","Knowledge Graphs", "Use cases"], 85, 10000

Michael Hunger, Director of Developer Relations at Neo4j, commented on hosting the world's largest gathering of graph developers and data scientists.

"NODES 2020 brings together thousands of graph practitioners from all over the world to connect, share and learn about a broad range of topics from data science and visualization to application development and use case deep dives," said Hunger. "It is gratifying to see the community share their passion for applying graphs to challenging data problems in areas such as healthcare, retail, recommendations and fraud investigations. NODES attendees will be the first to learn about Neo4j's future technology plans."

Neo4j is grateful to its 2020 NODES sponsors Google Cloud, Precisely, Internuntius, LARUS, Crosscode, Linkurious, Structr, GraphAware, Kineviz, Hackolade, and yWorks.

Key highlights of the event include:

- Emil Eifrem, CEO and Co-Founder of Neo4j, speaking on the future of graph technology and the ICIJ's latest FinCEN Files investigation

- Google Cloud as the headlining Platinum Sponsor, speaking on developing applications with Neo4j Aura
- Exclusive advanced-level training and certification program (pre-conference workshops)
- Virtual spaces granting an opportunity to learn more about sponsors and engage with them throughout the conference day
- Sessions on diverse topics including contact tracing, the FinCEN Files, machine learning, the 2020 US presidential election and much more
- Presentations by NASA, PayPal, Google, Deloitte, Capgemini and the World Bank
- Best practices on Neo4j Aura, Cypher, Neo4j Bloom and more

Robert Kubis, Cloud Developer Advocate at Google Cloud, looks forward to speaking at NODES and sharing ways developers can expand and enrich their Neo4j Aura datasets and workloads by connecting them to other Google Cloud offerings.

"Google Cloud is really pleased to be taking such a significant role in this year's NODES Conference," Kubis said. "We see great value in the use of Neo4j Aura and similarly, opportunity in significant growth and demand in its usage across various sectors. I look forward to connecting with the global graph developer community this year."

In addition to business sponsors, NODES 2020 brings together over 56 community partner organizations worldwide, including AI Kenya, Data Philly, Women Who Code, Data Science Salon, Spain AI and many others. The depth and diversity of this year's NODES partner organizations emphasize just how global the graph technology movement is.

Have you registered for NODES 2020? Reserve your ticket today.

View the full NODES 2020 agenda.

Resources

- Neo4j NODES

- Neo4j Developer Resources
- Neo4j Download Center
- Neo4j on Twitter
- Neo4j on LinkedIn
- Neo4j on YouTube
- Neo4j is Hiring

About Neo4j

Neo4j is the leader in graph database technology. As the world's most widely deployed graph database, we help global brands – including Comcast, NASA, UBS and Volvo – to reveal and predict how people, processes and systems are interrelated. Using this relationships-first approach, applications built using Neo4j tackle connected data challenges such as analytics and artificial intelligence, fraud detection, real-time recommendations and knowledge graphs. Find out more at neo4j.com.

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EXHIBIT 6

NASA, ICIJ, ATPCO, Lyft and More Choose Neo4j for their Knowledge Graphs

Neo4j Sees Surge in Demand for Enterprise Knowledge Graphs; Independent Survey Reveals that 89% of IT Leaders Plan to Expand Their Knowledge Graph Initiatives

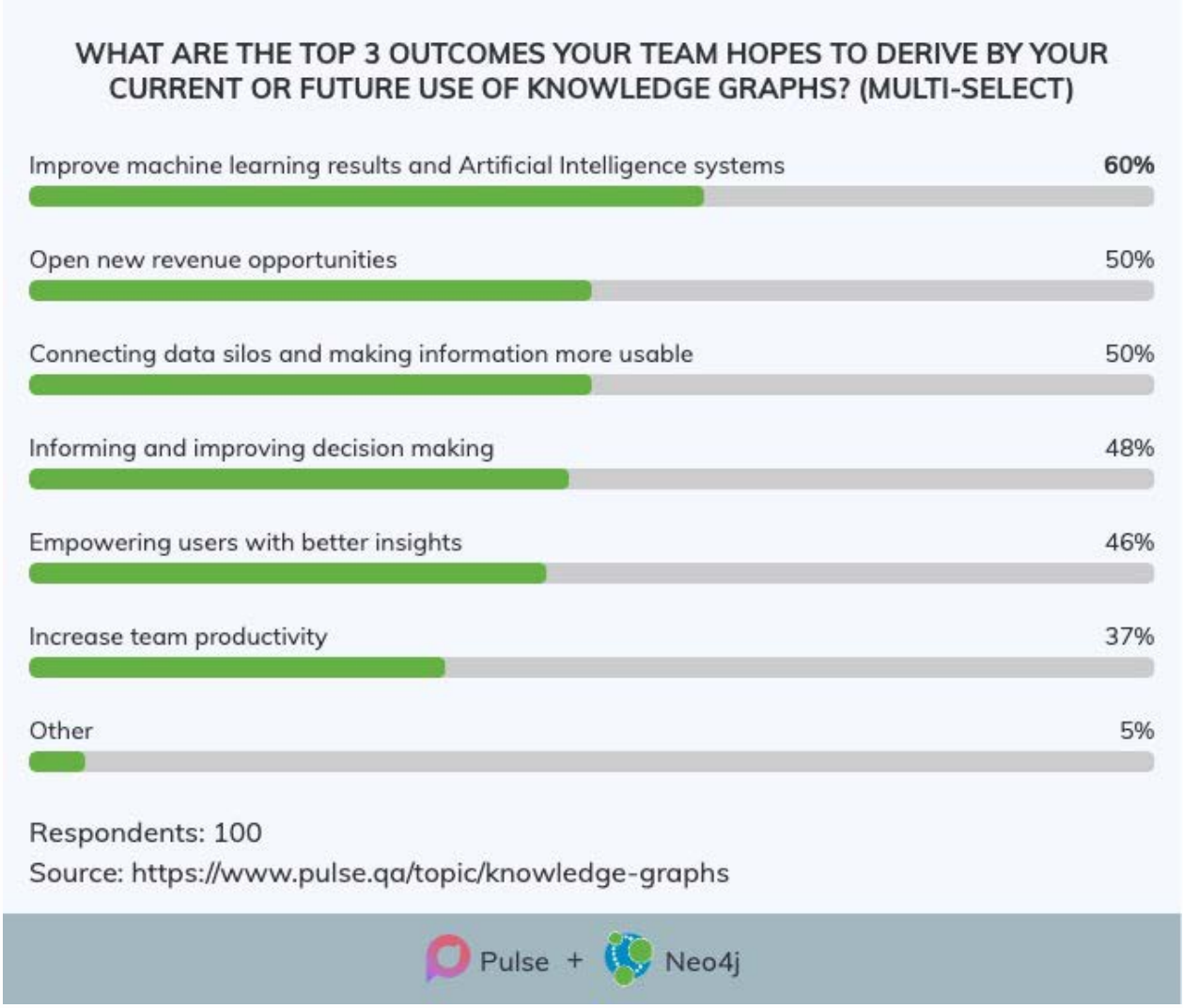
SAN MATEO, Calif. – September 23rd, 2020 – Neo4j®, the leader in graph technology, announced a Knowledge Graph Quick Start program to support the company's rapidly growing knowledge graph customer base. This market acceleration is corroborated in the results of an independent survey, "Technology Executive Priorities for Knowledge Graphs" recently conducted by Pulse, which charts a surge in demand for knowledge graphs among large enterprises.

At their most basic level, knowledge graphs are used to share information, as the basis for data management and governance and as a data fabric. Neo4j customer use cases tend to use knowledge graphs for general analysis, forecasting, what-if scenario planning and increasingly to contextualize AI (artificial intelligence) and machine learning systems. Increasing integration of knowledge graphs into broader business systems is widely expanding their use for process initiation and automation.

Neo4j expects enterprise demand for its knowledge graph technology to grow, an outlook that is backed by the Pulse survey results. The majority of IT decision makers

surveyed (89%) have an active plan to expand their knowledge graph initiatives over the next 12 months. Moreover, 92% of respondents believe that knowledge graphs improve machine learning accuracy and associated processes.

An overwhelming majority of technology executives (97%) believe that there's more potential within their organization for knowledge graph usage. The top three reasons to expand knowledge graphs are to improve machine learning and artificial intelligence systems (60%), open new revenue streams (50%) and connect data silos to make information more accessible (50%).



Caption: Neo4j expects enterprise demand for its knowledge graph technology to snowball. According to IT leaders**, the top drivers of expansion will be machine learning, AI, opening new revenue opportunities and connecting data silos.**

Several factors contribute to the increase in demand for knowledge graphs. Global stresses from the COVID-19 pandemic to secondary issues such as supply chain

disruptions shine a light on rigid, outdated, inefficient systems that are straining organizations and networks to breaking point. Increasingly remote workers require codified, organized information that is often perishable "tribal knowledge." Applying relevant knowledge is the single most powerful lever a business has to remain nimble, creative and resilient in an uncertain and frenetic market.

Neo4j Knowledge Graph Customer Success

Neo4j knowledge graphs bring complete visibility to data, processes, products, customers and – most importantly – how they all interrelate. As a result, organizations can see the bigger picture and make more informed decisions. The Neo4j native graph database provides a flexible and intuitive representation of real-world complexity, naturally capturing contextual information and unifying fragmented data. The result is relevant, timely data that drives forecasting and actions based on holistic information.

Organizations that have implemented Neo4j knowledge graphs are well-positioned for agility. Here are some examples of how they use Neo4j to advance critical initiatives:

Neo4j is currently being used by the ICIJ for the FinCEN Files. Neo4j has been working with the ICIJ since the 2016 Panama Papers investigation, which has recouped more than $1.2 billion of tax revenue in 22 countries, with tax evasion investigations continuing in more than 82 countries. In 2017, the ICIJ won the Pulitzer Prize for Explanatory Reporting for their work on the Panama Papers.

"Using Neo4j, someone from our Orion project found information from the Apollo project that prevented an issue, saving well over two years of work and one million dollars of taxpayer funds." David Meza, Chief Knowledge Architect at NASA

"Ninety percent of Lyft data scientists are using Amundsen [knowledge graph using Neo4j] to do their jobs on a weekly basis. We also found that this tool has increased productivity for our entire data science organization by around 30%." – Tamika Tannis, Software Engineer, Lyft

According to Jussi Vira, CEO of Turku City Data, Neo4j was chosen for their city-wide knowledge graph n-bridges, because the property graph model enables them to continuously write back to their graph and derive better solutions to address key city priorities.

"With Neo4j as a foundation for n-bridges, Turku City Data uses contextual AI to help

solve smart city problems as they arise, with the time to the next project decreasing dramatically," said Vira. "For example, n-bridges allowed the city of Turku to respond quickly to COVID-19 related issues, such as delivering food to elderly citizens who are homebound. Graph techniques determine routes through the city that optimize delivery speed and transportation resources while maintaining unbroken cold chain requirements. This graph-based route optimization aids the planning and management of safe and resource-efficient food distribution."

Covidgraph.org provides a new way for researchers to analyze publications, genes, proteins and disease. It's proven to be an invaluable exercise to find treatments and vaccines in the absence of long term clinical trials and minimal peer-reviewed research.

NEORIS HealthCheck enables companies to understand each employee's well-being and how infection trends will impact them at their specific location. At the same time, employees will be able to check-in and share critical information about their well-being to help their organization provide the necessary help and guidance.

eBay for Google Assistant uses a Neo4j knowledge graph to infer contextual information within a shopping request. eBay engineers knew that deploying a chatbot to their user base required internet scale with a high degree of resiliency and availability, plus predictable responses in milliseconds.

The German Center for Diabetes Research accumulates vast amounts of data distributed across various locations. It has built a master database to provide its 400-strong team of scientists with a holistic view of available information, enabling them to gain valuable insights into the causes and progression of diabetes.

ATPCO has implemented a Neo4j-powered pricing engine for airfare pricing. Neo4j is at the core of at least five of the primary data services offered, from fare management to air travel tax calculation. Getting a competitive price for a plane journey involves a large amount of complex data processing factoring over 100 billion product permutations.

Operationalize Knowledge Graphs Faster

Neo4j's Knowledge Graph Quick Start service scopes and builds a solution so that enterprises can go from zero to operational knowledge graph in as little as eight weeks. Neo4j experts use pre-built, customizable solution frameworks with proven code, models and components to build a domain-specific knowledge graph. These supported frameworks include data models and ontologies for financial systems, supply chain,

privacy compliance, customer, employee and patient information. Services include:

- Neo4j installation and configuration
- Applying a solution framework and customizing a data model
- Transforming data into a semantic format
- Data cleansing, the application of model constraints and entity resolution
- Applying graph analytics and machine learning to reshape and complete a knowledge graph
- Performance testing and tuning to ensure optimal results

More Information

You can download the highlights from the "Technology Executive Priorities for Knowledge Graphs" survey.

To learn more about Neo4j knowledge graphs at NASA and BMO Financial Group, watch this knowledge graph-focused Neo4j Connections event.

Learn more about Neo4j's Knowledge Graph Quick Start program here.

Resources

- Neo4j for Knowledge Graphs
- Neo4j Knowledge Graph Quick Start
- Neo4j and the FinCEN Files
- Neo4j for Artificial Intelligence
- Neo4j on Twitter
- Neo4j on LinkedIn

- Neo4j on YouTube

- Neo4j is hiring

About Neo4j

Neo4j is the leader in graph database technology. As the world's most widely deployed graph database, we help global brands – including Comcast, NASA, UBS and Volvo – to reveal and predict how people, processes and systems are interrelated. Using this relationships-first approach, applications built using Neo4j tackle connected data challenges such as analytics and artificial intelligence, fraud detection, real-time recommendations and knowledge graphs. Find out more at neo4j.com.

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EXHIBIT 7

Neo4j Marks Another Year of Product, Customer and Community Momentum

Growth fueled by cloud adoption, expanding enterprise customer base and technology leadership

SAN MATEO, Calif., January 29th, 2020 — Neo4j, the leader in graph technology, concluded a record year of customer and partner excellence, product growth and community engagement.

During the course of 2019, Neo4j continued to lead the graph database category it created through initiatives including a partnership with Google Cloud, integrations with Confluent for Apache Kafka and championing its open source developer community.

Rank			DBMS	Databas
Jan 2020	Dec 2019	Jan 2019		
1.	1.	1.	Neo4j	Graph
2.	2.	2.	Microsoft Azure Cosmos DB	Multi-mode
3.	↑ 4.	↑ 4.	ArangoDB	Multi-mode
4.	↓ 3.	↓ 3.	OrientDB	Multi-mode
5.	5.	5.	Virtuoso	Multi-mode
6.	6.	6.	JanusGraph	Graph
7.	7.	7.	Amazon Neptune	Multi-mode
8.	8.	↑ 10.	GraphDB	Multi-mode
9.	↑ 11.	↑ 11.	Dgraph	Graph
10.	↓ 9.	↓ 8.	Giraph	Graph

[Data practitioners around the globe continue to embrace Neo4j as the world's most popular graph database. Source: DBEngines.com]

Neo4j continued to grow in popularity throughout 2019 as the world's most widely-deployed graph database. A major driver of this growth is Neo4j's ability to provide connected context that improves the accuracy of artificial intelligence and machine learning applications. The company advocates for responsible AI systems and shared learnings from enterprise customer AI deployments as part of The National Institute of Standards and Technology (NIST) Federal AI Standards Engagement Plan.

As graph technology becomes central to data infrastructure, Neo4j customers have been innovating with the company's leading solutions and products, rating Neo4j highly on Gartner Peer insights. The company was featured in Gartner's Magic Quadrant for Operational Database Management Systems, received recognition in Gartner's Critical Capabilities for Operational Database Management Systems report and was included in The Forrester Wave™ Big Data NoSQL, Q1 2019.

Staying true to its mission to help the world make sense of data, Neo4j welcomed new customers in key verticals such as financial services and retail, and emerging areas such as manufacturing and life sciences. Ensuring broad access to Neo4j has been of utmost importance to the company and this year was no exception. In March, the company expanded its Startup Program to help early-stage companies harness the power of Neo4j, and in October, launched its Educator Program that allows for both new and experienced graph educators to provide hands-on use of Neo4j to students and nonprofits across the globe.

Emil Eifrem, CEO and Co-Founder of Neo4j, reflected back on 2019.

"As the world becomes more connected through technology and as global business operations integrate, data not only informs our decisions but leads us on paths of discovery," Eifrem said. "We've seen graph databases deployed across a variety of industries and use cases from fighting financial crimes and powering real-time

recommendation engines, to tackling the opioid crisis and furthering cancer and diabetes research. We are only scratching the surface of what we can do with graph technology. Neo4j is poised for strong, continued growth and for propelling our unrivaled capabilities further in 2020."

Neo4j plans to extend its lead and expand the boundaries of graph technology, continuing to build the largest graph technology ecosystem and stewarding its vibrant community of developers, data scientists and graph practitioners.

Neo4j 2019 highlights and milestones include:

Technology Leadership

- **Neo4j Aura™** – In November, the company launched Neo4j Aura, the first fully managed native graph database as a service. Aura makes Neo4j accessible for small and mid-sized businesses via the cloud. Read more about how Aura advances Neo4j's mission and product offerings in the press release.
- **Machine Learning and AI** – Neo4j customers have been using the company's graph technology as a basis for learning applications. In May of 2019, Neo4j shared the best practices amassed from graph-based AI and machine learning deployments with the U.S. Government, contributing to the Federal AI Standards Engagement Plan.

Corporate Momentum

- **Graph Query Language** – In an effort championed by Neo4j, the international committees that developed the SQL standard voted in September 2019 to make Graph Query Language (GQL) the first ISO/IEC international standard database languages project since SQL. This move toward an international standard for graph database queries is indicative of the rapid adoption of graph technology and is great news for graph users and buyers.
- **Fast Company Honors Graphs4Good** – In April, Neo4j's Graphs4Good program received an honorable mention in Fast Company's 2019 World Changing Ideas. The award illustrates Neo4j's graph-powered projects that affect positive social change and take on some of the world's toughest challenges.
- **Startup Program Expansion** – The Neo4j Startup Program supports growing businesses as they build applications on Neo4j. Notable program alumni include Medium, Shutl (Acquired by eBay), SOUQ (acquired by Amazon), OneFineStay (acquired by AccorHotels) and Lending Club. In 2019 more than 1,000 startups enrolled in the program bringing the total number of participants to more than 2,500.
- **Educator Program Launch** – In October, the company launched its Educator Program allowing for both new and experienced graph educators to provide hands-on use of Neo4j to their students in accredited, non-profit institutions, as well as K-12, college and university programs across the globe. In just three months more than 250 educators have taken advantage of the program.
- **Applying Graphs in Data Science** – This year, O'Reilly Media published Graph Algorithms: Practical Examples in Apache Spark & Neo4j, co-authored by Neo4j's graph technology experts Mark Needham and Amy E. Hodler. The book delivers helpful examples for application developers and illustrates the value delivered from graph algorithms. It has been downloaded more than 45,000 times.

Graph Ecosystem

- **Google Cloud** – In April, Neo4j and Google Cloud announced a strategic partnership to offer Neo4j as a seamless experience integrated with the GCP console, billing and support services. Through this partnership, Google Cloud is making Neo4j accessible for developers and businesses in a simple, friction-free way. Read more on this partnership from CEO Emil Eifrem's blog.
- **Confluent for Apache Kafka** – In October, Neo4j announced a new integration with Apache Kafka® and Confluent® Platform to connect Kafka event streams. Neo4j, Kafka and Confluent users and customers now have a seamless, supported integration thanks to the new connector. Neo4j Streams is easily applied to a variety of real-time use cases including financial fraud analysis, knowledge graphs and customer 360.
- **Thales Integration** – A comprehensive integration between Neo4j Enterprise Edition and Thales Vormetric Transparent Encryption launched in July 2019 to deliver data-at-rest encryption. The integration provides industrial-strength encryption-at-rest for the Neo4j graph database and helps Neo4j users meet more stringent security and compliance requirements, while maintaining hardware and software performance.

Customer Excellence

- **Lyft Amundsen** – Spun out of Lyft by software engineers Tao Feng and Mark Grover, Amundsen is a tool using Neo4j for finding and discovering data sets within the company. In September, Mark Grover of Lyft sat down with Neo4j for a webinar, accompanied by comprehensive media coverage in ZDNet.
- **Strata Data Award** – In March, the Strata Data Awards honored the German Center for Diabetes Research (DZD) and Neo4j as a top-three finalist for its 2019 awards. The DZD's graph database implementation combines research data sources from genetics, epigenetics and metabolic pathways with data from clinical studies to find new ways to fight diabetes.
- **Unmatched Customer Success** – Neo4j added more than 100 new customers during 2019. Organizations like UBS, Caterpillar, Comcast, Dun & Bradstreet, Vanguard and others shared their success at conferences, on video and in case studies. Find out more about Neo4j's customers here.
- **Graphie Awards** – The Graphie Awards celebrate the world's most innovative graph technology applications, recognizing success in connected data across multiple categories. The winners of the 2019 Neo4j Graphie Awards included Dun & Bradstreet, EY, Lockheed Martin Space, Omnia AI and Volvo Cars.

Community Engagement

- **World's Largest Graph Practitioner Conference** – This year marked the first NODES (Neo4j Online Developer Expo and Summit) online event that brought together more than 1,600 developers and graph enthusiasts. The conference featured 53 talks on topics ranging from AI and machine learning to social media monitoring with graph technology.
- **GraphTour** – In 2019, Neo4j GraphTour touched down in major cities across the globe from Tel Aviv to New York, bringing together thousands attendees and graph technology experts from customers including Volvo, Lyft and ING for a day of learning, exploration and advice.
- **Community Momentum** – Neo4j delivers graph technology built by developers for developers. This practitioner-centric approach has resulted in a highly engaged developer community that is now more than 200,000 strong. In 2019, more than 4,500 new developers attained certification or training, and more than 40,000 professionals now list Neo4j as a skill on their LinkedIn profile.

About Neo4j

Neo4j is the leading graph database technology that drives innovation and competitive advantage at Airbus, Comcast, eBay, NASA, UBS, Walmart and more. Thousands of community deployments and more than 400 customers harness connected data with Neo4j to reveal how people, processes, locations and systems are interrelated. Using this relationships-first approach, applications built using Neo4j tackle connected data challenges including artificial intelligence, fraud detection, real-time recommendations and master data. Find out more at neo4j.com.

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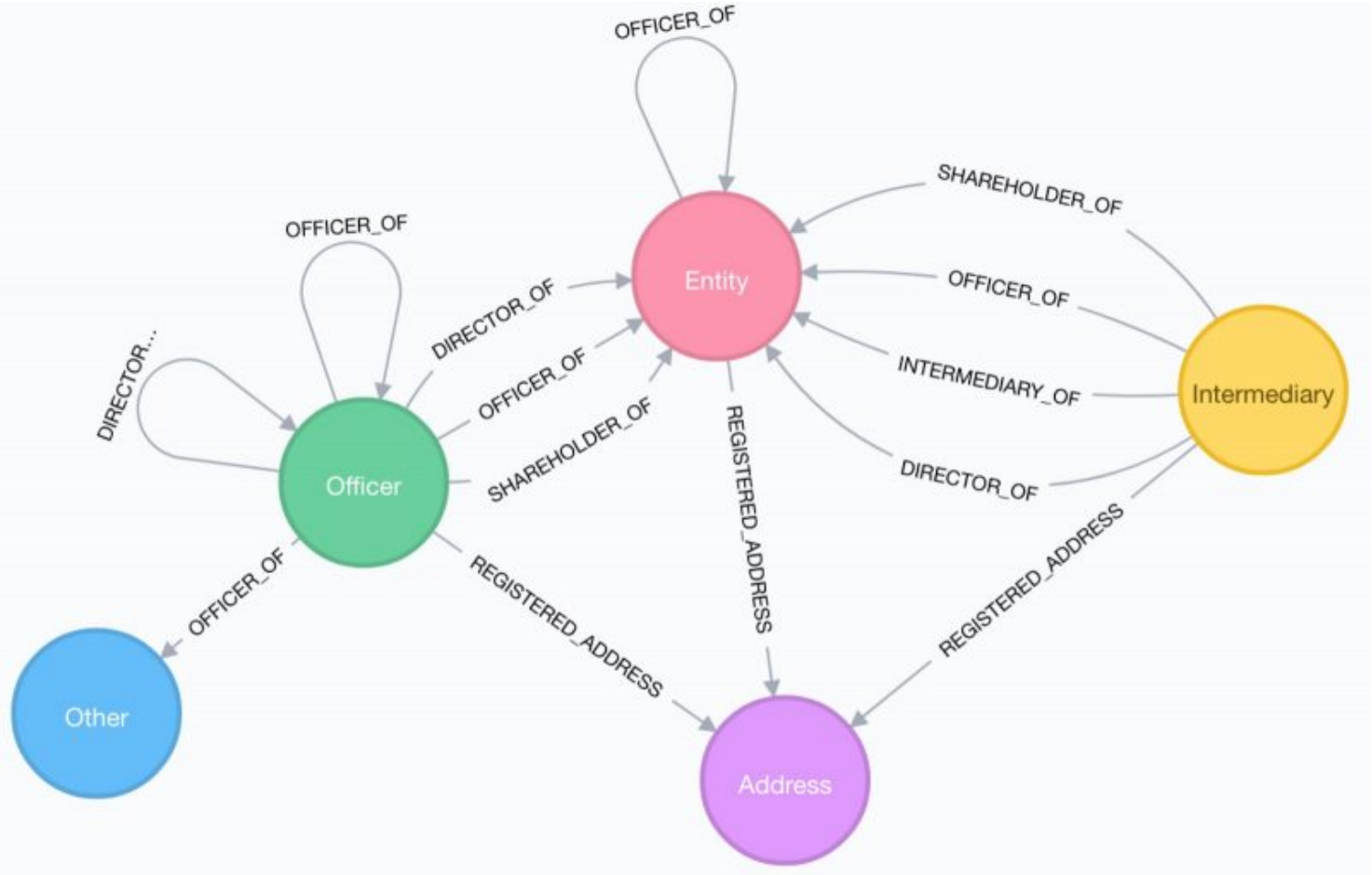
EXHIBIT 8

Neo4j is the Graph Database of Choice for World's Top Financial Services Organizations

Deployed by 20 of the World's Top 25 Financial Services Firms, Neo4j Sees a Surge in Demand for its Powerful Graph Technology

SAN MATEO, Calif. – October 22, 2019 – Neo4j, the leader in graph databases, reported a surge in demand for its powerful graph technology among the global financial services community.

As firms step up their fight against fraud, bolster anti money laundering (AML) investigation and comply with strict transparency requirements, Neo4j has been the graph database of choice for 20 of the world's 25 top financial services firms. Made famous thanks to its role in uncovering the Panama and Paradise Papers tax avoidance scandals, Neo4j is on the shortlist for many organizations looking to identify and eliminate financial fraud.

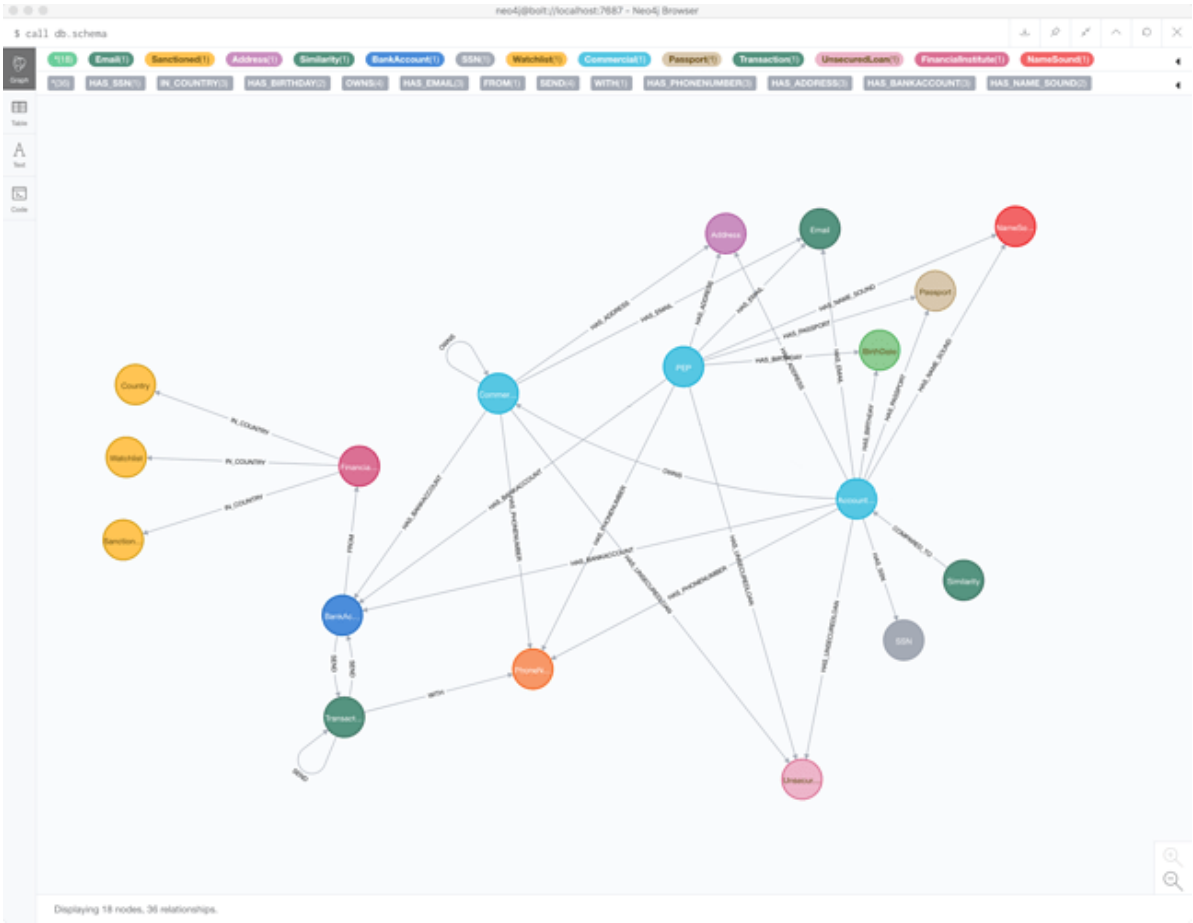


Caption: Neo4j worked with the ICIJ on the Panama Papers leak resulting in a Pulitzer Prize-winning investigation into global tax evasion. Shown is the Neo4j graph data model used for the investigation.

Fortune 500 organizations are adopting graph capabilities to scrutinize financial data for the earliest signs of financial misconduct or fraud in real time. Organizations in the financial services industry know they're in a rapidly escalating arms race trying to defend against bad actors leveraging new technologies – a struggle that requires new and more sophisticated fraud detection and prevention approaches.

Firms' ability to pinpoint financial crime from huge data volumes using Neo4j are impressive. When transactions run into tens of thousands of occurrences per day, traditional, manual approaches to anomaly checking aren't sustainable.

Graph technology is able to "connect the dots" across even the most complex and opaque data trails to reveal the subtlest connections and inter-relationships. This capability proved instrumental in recouping some $1.2 billion in fines and back taxes linked to the Panama Papers affair.



Caption: An anti-money laundering graph data model in Neo4j that clearly demonstrates how entities are related.

The global fraud detection and prevention market was valued at $17.5 billion in 2017 and is expected to grow to $120 billion by 2026, according to Stratistics MRC. As a testament to the velocity of innovation in fraud, over the last decade more than 48,000 patents for fraud and anomaly detection solutions have been issued in the U.S. alone.

Dun & Bradstreet (D&B), the world's leading business information provider, was among the first to spot the potential to apply graph technology to fraud detection, when it launched a new company ownership tracking service back in 2016. The service allows clients to investigate all historic company ownership records linked to individuals, and it adheres to new international transparency regulations designed to counter tax evasion and money laundering.

Dun & Bradstreet's Senior Compliance Manager, Paul Westcott, explained how the company uses Neo4j.

"Being able to quickly understand relationships between data gives us the ability to rapidly interpret corporate structures and any dilution of ownership of a business," said Westcott. "Neo4j's networks of nodes and connections mean the data to

do this can be surfaced for an individual in milliseconds – a very quick return of information, making graph the ideal fit for our needs."

Neo4j's Vice President of Products, Philip Rathle, explains how augmenting traditional data management approaches with graph databases allows financial institutions to leverage connections inherent to their data.

"Graph databases offer powerful new methods of uncovering fraud rings, money laundering, and other sophisticated scams by surfacing patterns in data that are invisible via traditional methods," said Rathle. "The same pattern-based approach enables financial institutions to understand and better assist their customers, who grapple with multiple accounts, identifiers, and lines of business. Graph-driven innovations at banks today result in initiatives and products that better serve customers, increase share of wallet, promote capital preservation and enhance regulatory compliance effectiveness."

AIG, Citigroup, Credit Agricole, China Zheshang Bank (CZ Bank), ING, Société Générale, Thomson Reuters and UBS are among Neo4j's numerous financial services clients, applying Neo4j's graph technology across a wide range of risk management use cases. Meanwhile in the insurance sector, Neo4j's customers include Aviva, AG Insurance Belgium, Die Bayerische and Zurich Insurance Group.

Graph's critical role in making sense of complex data relationships has been demonstrated in a broad range of business settings. Gartner considers graph to be a top 10 data and analytics technology trend for 2019. Combined with artificial intelligence and machine learning, graph technology has tremendous potential to uncover fraud with record speed and efficiency.

Share this on Twitter.

Find Out More

To understand how Neo4j addresses key challenges in finance and why Lending Club relies on Neo4j to manage over 130 microservices, visit neo4j.com/industries/financial-services/.

About Neo4j

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EXHIBIT 9

William Blair

Equity Research
Technology, Media, and Communications

Private Company Spotlight

November 21, 2019

Jason Ader, Analyst
+1 617 235 7519
jader@williamblair.com

Key Metrics:

+$7.2B TAM

$160M in total capital raised

300 employees globally

+$50M in ARR

+75% of *Fortune* 100 companies use Neo4j including:

- **20 of the top 25 financial services firms**
- **7 of the top 10 software firms**
- **3 of the top 5 logistics firms**
- **7 of the top 10 retailers**
- **3 of the top 5 airlines**
- **4 of the top 5 telco companies**
- **3 of the top 5 hospitality companies**

Competitors:

Microsoft amazon

Customers:

Walmart

T-Mobile

Adobe

novo nordisk

Santander

MERCK

CZBANK 浙商银行

Neo4j: Pioneer in Graph Databases

Our Q&A With Emil Eifrem

Founder and CEO of Neo4j

1. Discuss the sequence of events that led to Neo4j's founding and what problem you were aiming to solve.

I had the idea for the very first graph database midflight on my way to Mumbai. Johan Svensson, Peter Neubauer, and I had been building an enterprise content management system (ECM), but kept running up against the challenge of using a relational database for querying connected data.

That's when the idea struck. I grabbed a napkin and quickly sketched the first property graph model. The ideas sketched on that napkin ultimately took form as Neo4j, the world's first graph database, which also started our company. Though we were solving for our unique situation at that time, I couldn't have possibly imagined the worldwide impact that napkin sketch would create.

When we founded Neo4j, we knew we had invented an elegant new way to solve a hard data problem, but we could have never foreseen the growth of connected data. Now it's everywhere—we have connected devices and networks, social networks and human relationships, and big trends like IoT and artificial intelligence (AI) that are proving the power of understanding relationships in data.

Today, our commercial business is solving high-value data problems for big companies, and our open source community has shown us how powerful graphs can address non-corporate use-cases.

2. Define "graph database" for the average person and spell out the main characteristics and use-cases.

In simple terms, a graph database treats relationships within data as "first-class citizens" to uncover insights and understand connections in a way previously impossible.

The beauty of graph database technology is that it's entirely "horizontal." We and our community have proven the value of graphs across nearly every industry in organizations of all sizes. The same Neo4j technology that helped discover and untangle the web of the Panama and Paradise Papers has also helped NASA modernize its famous "Lessons Learned" database and advance its missions to Mars. Our technology has been used by the German Center for Diabetes Research (DZD) to help diabetes patients and work toward eliminating the disease. It has also been deployed to offer powerful, real-time online recommendations for retailers like Walmart and eBay.

3. How big is the graph database market and how fast is it growing?

It's hard to put a dollar amount on the graph database market, but we estimate the total addressable market at $7.2 billion globally, Gartner considers graphs a top 10 data and analytics technology trend for 2019. The market has been growing rapidly in recent years, fueled by a better understanding of the power of graph databases. When Amazon (AMZN $1732.30; Outperform) and Microsoft (MSFT $149.14; Outperform) entered the market, it really validated and accelerated the category.

4. What can you share on Neo4j in terms of market momentum, key customers, growth, etc.?

We pride ourselves on being the leader in the graph database market. Thousands of organizations from startups to *Fortune* 500 companies are using Neo4j to build new and innovative applications that leverage connections in data for applications like recommendation engines, impact

analysis for network and IT operations, and real-time routing for logistics. They're also using graphs to reinvent their approach to business applications such as master data management, identity and access management, content management, fraud detection, and portfolio and risk management.

Our customers lead the way in using graphs to underpin their machine learning and AI efforts. For AI to be more situationally appropriate and "learn" in a way that understands and refines outputs, it needs to be underpinned by context. Context is all of the peripheral information relevant to that specific AI. Neo4j delivers a purpose-built method for adding and leveraging context from data. Proven repeatedly in deployments worldwide, graph technology is a powerful foundation for AI, a position validated by Google's (GOOG $1294.69; Outpeform) DeepMind team as well as hundreds of recently published academic research papers on machine learning and AI.

Neo4j has been instrumental in working with the International Standards Organization (ISO) to formally initiate a universal Graph Query Language (GQL) standard. GQL is the first new ISO database language in 35 years, the last one was SQL. GQL has strong roots in Cypher—the query language invented by Neo4j. GQL is great news for users because it means interoperability, portability, and availability of skill sets and should only accelerate graph adoption in large conservative enterprises.

Being a practitioner-led company, Neo4j has cultivated a diverse ecosystem to support graph deployment across a variety of tech infrastructures. We partner with Google Cloud Platform (GCP), Microsoft Azure, and Amazon Web Services to provide customer choice for graph deployment and support the multicloud reality of most large enterprises. We have a strategic partnership with GCP that allows Neo4j customers a first-party experience on GCP with integrated customer billing and support. GCP field reps will be fully compensated on Neo4j deals via the marketplace providing strong GTM momentum for Neo4j through that partnership.

Neo4j has integrations with key data infrastructure players including Confluent/Kafka, IBM, HP, and Cisco (CSCO $44.87; Market Perform). EY, Capgemini, and Deloitte have formidable graph implementation practices.

5. Who are some of your main competitors and how do you differentiate your solution?

Our biggest competitor is the lack of awareness about when and how to use a graph database to solve a connected data problem. For decades, relational methods have plagued software developers with the constant need to translate conceptual business relationships into physical relational tables and back again. A graph data model looks just like what you'd draw on your whiteboard if you were describing the relationships between people or devices in your organization.

As the category leader, we're accustomed to smaller competitors entering the market and challenging us. I'm glad they're here because challengers keep the category healthy. At the stage that we're at though, we're more focused on the bigger players like Amazon and Microsoft.

There are many technical reasons why Neo4j outshines other technologies for connected-data applications—scalability, performance, flexibility, and developer productivity to name a few.

In today's world, users expect sub-second response times from web applications, even those that integrate data from a myriad of disparate sources. Relational systems cannot reliably deliver this level of responsiveness.

If you combine the fact that the database industry constantly underestimates how widely applicable graph databases are with the naivete about how difficult it is to build a world-class graph database (and not just as an afterthought to a non-native database), we think we have a multiyear head start.

6. On November 6, you announced Neo4j Aura, your DBaaS product. What's the significance of this offering?

Aura takes the most popular graph database in the world to the cloud and offers it as a pay-as-you-go service. We have always believed that open source and self-serve was the best way to bring our powerful and flexible database to a large number of developers globally. As we grew mindshare, large enterprises became paying customers by moving to our Enterprise Edition, with the vast majority using Neo4j in the cloud (mainly self-managed). However, not all users have the resources to move to our Enterprise Edition. So first, we see Aura expanding our market opportunity to individuals and SMB customers and allowing us to monetize some of the free usage. We see this creating a strategic moat that protects us from below, allowing us to win over developers with a $50 per month DBaaS.

Many enterprise customers don't want to self-manage. Aura removes the operational burden associated with managing a database, allowing developers to focus solely on building applications. In the long run, given workload migration to the cloud, Aura will be our primary offering across all segments including large enterprises.

Aura uniquely provides on-demand scalability, allowing customers to add capacity through one-click deployment with zero downtime. Lastly, Aura provides always-on availability and a self-healing system that identifies and proactively addresses emerging issues.

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DOW JONES: 27821.10
S&P 500: 3108.46
NASDAQ: 8526.73

Additional information is available upon request.

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Market Perform (Hold)	31	Market Perform (Hold)	8
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*Percentage of companies in each rating category that are investment banking clients, defined as companies for which William Blair has received compensation for investment banking services within the past 12 months.

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EXHIBIT 10

IMPACT REPORT

More than a graph database, Neo4j spreads graph platform message

FEBRUARY 13 2018
BY JAMES CURTIS

The company formerly known as Neo Technology has officially taken on the name Neo4j. The move makes sense, given that most considered Neo4j the name of the company anyway, so the change effectively made it official. It recently released a new version of its Neo4j graph database, in addition to a positioning pivot of Neo4j as a graph platform. So, in addition to storing graphs, the new platform offers developer tooling and analytical capabilities, as well as greater integration with relational and big-data technologies, among other updates.

The 451 Take

In the world of graph technology, Neo4j is perhaps the most well-known of the graph database players, having gotten its start in 2000. The company as a whole has done well to raise the general awareness and adoption of graph technologies. While its platform strategy is just starting, and some functionality is still maturing, Neo4j is positioning itself to reach further into the enterprise while broadening its user base. Interestingly, the graph market is expanding. A fair number of NoSQL vendors have added graph as a data model, the majority of the larger relational database players offer graph, and a handful of new vendors have entered the market recently. Perhaps this points to greater graph adoption, which could be good timing for Neo4j.

Context

The company was founded in 2000 when cofounders Emil Eifrem and Johan Svensson developed the database model now known as the property graph model, which later became the basis for Neo4j, the company's graph database. While the first version of the Neo4j database appeared in 2002, the company wasn't officially formed until 2007 (in Sweden), which is also when the company first made Neo4j available as open source. Today, Neo4j resides in San Mateo, California, with offices in London; Munich; Paris; and Malmo, Sweden.

The firm reports more than 250 employees across its locations, up measurably from the 125 reported in our earlier coverage. The company has amassed $80m in funding, with the most recent round of $36m coming in November 2016.

Neo4j has provided some metrics, including total downloads in excess of 10 million. Total paying customers are reported at more than 250, with more than half of those claiming over $1bn in revenue.

Products

In October 2017, Neo4j announced version 3.3 of its graph database, as well as its foray into positioning Neo4j as a graph platform. At the heart of the platform, of course, sits the Neo4j graph database, but the company has assembled other pieces around Neo4j to drive its platform strategy. A few features are worth noting.

For developers (as well as other users), the company rolled out Neo4j Desktop, a front-end tool that serves as a type of control panel for developers. The tool handles user management and security, including Kerberos authentication with LDAP integration. Managing schemas, indexes, scaling and Bolt drivers, Neo4j Desktop enables access to additional interfaces, such as the company's Neo4j Browser for data discovery and visualization.

Enhancing analytics has also been a recent focus for the company. Neo4j has added a graph analytics library that is targeted at enabling deeper insight when dealing with relational and big data. The new library includes community detection algorithms for evaluating how a graph is partitioned, pathfinding algorithms for determining or evaluating the shortest path, and centrality algorithms (such as PageRank) for identifying distinct nodes within a network.

Neo4j has also been expanding the reach of Cypher, the company's query language, which is also available via an open source project known as openCypher. Recognizing Apache Spark's momentum in the market, the company developed Cypher for Apache Spark (CAPS), and it has contributed the code to the openCypher project. With CAPS, Spark users will be able to create an in-memory graph using Spark that can then be materialized with Cypher.

Strategy

By offering functionality around Neo4j as a platform, the company is in a better position to expand its user base beyond the hardcore developer to other personas, such as data scientists, data analysts, data engineers, business analysts and so forth. While the company has a loyal developer following – claiming over 100,000 trained developers – the goal is to reach other business groups and move up to the executive ranks within an organization.

Closely associated with expanding the user base is the goal to play a greater role within the datacenter environment. The idea is that, by integrating more powerfully at the data level, there will be more organizational data available at the user level to work with graphs, or what is often called relationship data. Thus, the added tooling around Neo4j further increases the type of users and what those users can then do with that data.

For instance, as part of the company's fall announcements, Neo4j provided a prerelease version of the Neo4j ETL tool with a front-end GUI. At a high level, the tool facilitates the ability to move relational data into a graph, creating all of the graph dimensions from the relational data. The tool provides a visual way for users to map data elements from a relational source and then see how it would appear as a graph, selecting attributes as necessary.

Competition

While Neo4j is categorized as a pure-play graph database vendor, the company competes not only with peer graph vendors, but also vendors for which graph is just one part of an overall database offering. For peer graph competitors, we can identify TigerGraph, Memgraph and Ontotext with GraphDB. Open source graph databases include Titan and JanusGraph. Objectivity's ThingSpan operates on the company's object database, Objectivity/DB, but is leveraged for graph-based applications. There is also Franz's AllegroGraph.

A number of NoSQL vendors have also added graph technology as a means to drive multi-model capabilities within their databases. These vendors include MongoDB, DataStax, MarkLogic, ArangoDB, OrientDB and Microsoft's cloud-based Cosmos DB (which is available on Azure).

Some veteran database vendors have also shown interest in graph technology. Oracle offers its Oracle Spatial and Graph, which is offered as an option for the company's Oracle Database. Teradata likewise offers graph analytics as part of the Aster product. IBM is also noteworthy, leveraging JanusGraph for its Compose for JanusGraph offering that replaces IBM's previous cloud service known as IBM Graph.

SWOT Analysis

Strengths
Neo4j holds notable branding recognition in the graph database market, and the company's new platform strategy should be influential in helping organizations adopt graph technology.
Weaknesses
While the market is showing signs of improving, the graph database market is a small portion of the overall database market. Organizations are still learning how to leverage graph databases, which often can be perceived as add-on technology to an existing data environment.
Opportunities
Neo4j's branding will often get the company inside an enterprise. With its new platform strategy, the new platform capabilities can help Neo4j expand its presence once it has landed the customer.
Threats
When most organizations consider adopting graph technology, Neo4j can often be the first vendor to come to mind. As such,

the company is often in the crosshairs of other graph vendors.

James Curtis

Senior Analyst, Data Platforms & Analytics

M&A ACTIVITY BY SECTOR
M&A ACTIVITY BY ACQUIRER
FIGURES SHOWN INDICATE NUMBER OF TRANSACTIONS

COMPANY MENTIONS (PRIMARY)

Neo4j

COMPANY MENTIONS (OTHER)

ArangoDB DataStax Franz IBM MarkLogic Memgraph Microsoft MongoDB Objectivity Inc Ontotext Oracle Orient Technologies Teradata TigerGraph

CHANNELS

Data Platforms & Analytics

SECTORS

All / Information management / Data management / Non-relational databases

EXHIBIT 11

IMPACT REPORT

Neo Technology takes in $36m, revamps clustering architecture on Neo4j

NOVEMBER 10 2016
BY JAMES CURTIS (/ANALYST-TEAM/ANALYST/JAMES+CURTIS)

Neo Technology is on a fairly consistent release schedule with its Neo4j graph database. Not quite six months since the release of version 3.0, the company announced a beta availability of version 3.1. While the company has not normally delivered a beta release, this time it makes sense given the significance of the updates. For example, the company overhauled Neo4j's clustering architecture. Growth with enterprise deployments has led Neo Technology to add a number of security enhancements as well. It has also announced a series D funding round.

The 451 Take

Neo Technology enjoys strong name recognition in the graph database market. With its noted reputation, the company has grown a strong and active community around its offering. Neo Technology's new security and revamped clustering architecture should win points with the enterprise crowd. There are still challenges for Neo Technology because the competitive landscape has never been stronger. Graph database interest continues to pick up steam, as evidenced by many NoSQL vendors adding graph capabilities to their multi-model databases, along with the established vendors adding graph to augment their SQL-based databases. We have also seen graph crop up as a cloud service.

Context

As of late, Neo Technology has kept a fairly consistent release schedule of about every six months. Each new release represents a steep uptick in capabilities for the company's Neo4j graph database. Neo Technology was founded in 2007 when it was first open sourced, although the database had been around since 2002. As such, the company has been able to foster a healthy developer community. Neo Technology's Neo4j graph database is perhaps the most well-known and deployed graph databases on the market, and the company could be considered bellwether for the graph market as a whole.

Neo Technology recently reported that it experienced 50% growth over last year. While management claims that the company could have grown faster, it chose to control its growth and reports that it is on track to turn cash-flow positive in Q1 2017. The deliberate growth strategy has paid off; the company announced a series D funding round of $36m, taking total funding to

$80.1m. This latest round was led by Greenbridge Investment Partners and included participation from Sunstone Capital, Creandum and Eight Roads Ventures. Neo Technology reports an increase in enterprise accounts, taking its total customer count to 200. The company also grew its headcount and now reports 125.

Products

Neo Technology's latest 3.1 release includes an overhaul of Neo4j's clustering architecture to the Raft consensus algorithm, which is based on academic research from Stanford University. The company notes that this latest change is the database's third cluster architecture revamp since its inception, the other two being Zookeeper and Paxos. Management identifies a couple of overriding reasons for the new architecture. One is to provide greater scaling capabilities that better align with the long-term plans for Neo4j, and the other is to enable greater data consistency, particularly in a clustered environment.

Eventual consistency is a data-model approach that is often adopted by NoSQL databases. Raft, however, provides a framework to address some of these shortcomings and enables much stronger consistency. A user, for instance, may register on a particular shopping site and then immediately try to log in to continue shopping. When the user is not able to log in immediately after registration, it can often be that certain servers are not in sync. Eventually, the user can log in, but not until after some initial frustration. This is a simple example, but Neo Technology is looking to address the shortcoming of eventual consistency by providing stronger consistency through implementing a casual-consistency architecture.

At a high level, casual consistency provides a number of benefits. One is that from a client perspective, there is always a consistent view of the data. Another is that there is built-in load balancing, which bifurcates the read and write requests to separate servers. There are generally more reads (browsing) from an application, for instance, than from requests for those that are buying (writes). Other benefits include supporting large clusters (1,000 plus instances), no dependency on a master server, as well as the ability to mix and match instance types, such as application servers, reporting servers and various IoT devices. Besides updating the clustering architecture, Neo Technology has enhanced Neo4j's security capabilities. For instance, there is a choice for authentication for Active Directory or LDAP, role-based authorization, and sub-graph access control, and the ability to add specialized functions such as Kerberos via a pluggable architecture framework.

Other updates include the Neo4j Schema Viewer, which is built into the Neo4j web-based browser tool. Schema Viewer allows graphs to be viewed at a current point in time based on database statistics, helping developers and others understand the database contents. Another update is the availability and compatibility with IBM POWER8 CAPI Flash, which was announced earlier and provides hardware acceleration for those leveraging the POWER8 architecture.

Neo Technology announced the Neo4j beta in October and plans to deliver the general-availability version in Q4. While Neo Technology has not traditionally released a public beta, it makes sense this time given the significance of a new clustering architecture update and the need to rally the Neo4j community prior to a general-availability release.

Competition

Neo Technology faces competition from a number of areas. One is the growing list of pure-play or specialty graph databases for which we would count Sparsity Technologies, AllegroGaph from Franz, GraphDB from Ontotext and ThingSpan from Objectivity Inc.

Another group of competitors comes from the NoSQL vendors, which we classify as multi-model NoSQL database vendors, where graph is counted as one data model among the other models offered. DataStax has its DataStax Enterprise Graph that was recently added to company's DataStax Enterprise offering and hearkens back to the acquisition of Aurelius, the commercial supporter of the Titan graph database. MarkLogic with its Semantics functionality, OrientDB and ArangoDB also offer graph. IBM is another with its IBM Graph service provided on the company's Bluemix cloud platform. It's also worth pointing out that MongoDB has publicly announced that it will be adding graph to its NoSQL database, and Redis Labs enables graph capabilities with its Modules functionality.

Some veteran database vendors have also shown interest in graph technology. Oracle offers its Oracle Spatial and Graph, which is offered as an option for the company's Oracle Database. Teradata likewise offers graph analytics as part of the Aster product.

SWOT Analysis

Strengths

Neo Technology is not afraid to stay at the forefront of certain technologies, as evidenced by the company taking on a new clustering architecture. The company has also shown to be fiscally responsible in how it manages its funding and growth.

Weaknesses

Neo4j is still maturing as an enterprise citizen. The new clustering architecture will add stronger consistency and greater security capabilities, which are necessary for securing confidence with the enterprise audience.

Opportunities

With strong name recognition along with newly added enterprise functionality, Neo Technology is in a good position to capitalize on taking graph more broadly into the enterprise environment.

Threats

There are a number of NoSQL players adding graph capabilities to their NoSQL multi-model databases, which may cause some challenges for Neo Technology and the other specialty graph database vendors.

James Curtis (/analyst-team/analyst/James+Curtis)

Senior Analyst, Data Platforms & Analytics

M&A ACTIVITY BY SECTOR

Information management / Data management / Non-relational databases (19) (https://makb.the451group.com/results?basic_selected_sectors=432)

M&A ACTIVITY BY ACQUIRER

DataStax Inc. [fka Riptano Inc.] (2) (https://makb.the451group.com/results?basic_acquirers=DataStax+Inc. [fka Riptano Inc.])

IBM Corporation (166) (https://makb.the451group.com/results?basic_acquirers=IBM+Corporation)

MongoDB Inc. [fka 10gen] (1) (https://makb.the451group.com/results?basic_acquirers=MongoDB+Inc. [fka 10gen])

Oracle Corporation (121) (https://makb.the451group.com/results?basic_acquirers=Oracle+Corporation)

Teradata (16) (https://makb.the451group.com/results?basic_acquirers=Teradata)

Figures shown indicate number of transactions

COMPANY MENTIONS (PRIMARY)
Neo Technology (/search?company=Neo+Technology)

COMPANY MENTIONS (OTHER)
ArangoDB , Aurelius , Creandum , DataStax , Eight Roads Venture , Franz , Greenbridge Investment Partners , IBM , MarkLogic , MongoDB , Objectivity Inc , Ontotext , Oracle , Orient Technologies , Redis Labs , Sparsity Technologies , Stanford University , Sunstone Capital , Teradata (/search?company=Teradata)

CHANNELS
Data Platforms & Analytics (/dashboard?view=channel&channel=6)

SECTORS
All / Information management / Data management / Non-relational databases (/search?sector=432)

EXHIBIT 12

REDACTED VERSION OF DOCUMENT SOUGHT TO BE SEALED

EXHIBIT 13

REDACTED VERSION OF DOCUMENT SOUGHT TO BE SEALED